

PATENT  
Serial No. 10/816,645  
Amendment in Reply to Final Office Action of August 18, 2006

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1-18 (Cancelled)

19. (Currently amended) A side-emitting illumination device for uniformly distributing light comprising:

a light source,

a light-transmitting rod which permits substantially total internal reflection, and

a reflective outcoupling material affixed to an outer surface of the rod,

wherein the angular width of the reflective outcoupling material affixed to an outer surface of the rod controls the angular distribution of light leaving the side of the rod ~~and the outcoupling material is distributed along an angular width in such~~

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~~a way as to ensure uniform light distribution along the length of the rod,~~

wherein the angular width of the reflective outcoupling material varies along the length of the rod to provide substantially uniform light distribution.

20. (Previously Presented) The side-emitting illumination device of claim 19, wherein the light source further comprises a plurality of LEDs.

21. (Currently amended) The side-emitting illumination device of claim 20, wherein the plurality of LEDs includes at least a red, a green, and a blue LED which, when are mixed, to generate white light.

22. (Currently amended) The side-emitting illumination device of claim 21, wherein the red, green, and blue LEDs ~~can be~~ are mixed to generate white light chromaticity.

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23. (Currently amended) The side-emitting illumination device of claim 21, wherein the array of red, green, and blue LEDs ~~can be~~ are mixed to generate dynamic color effects.

24. (Previously Presented) The side-emitting illumination device of claim 19, wherein the rod is a flexible rod.

25. (Previously Presented) The side-emitting illumination device of claim 19, wherein the rod is a rigid rod.

26. (Currently amended) The side-emitting illumination device of claim 19, wherein the reflective outcoupling material is paint.

27. (Previously Presented) The side-emitting illumination device of claim 26, wherein the paint is white paint.

28. (Previously Presented) The side-emitting illumination device of claim 27, wherein the white paint is distributed in such a way as to control the angular distribution of light leaving the rod.

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29. (Previously Presented) The side-emitting illumination device of claim 27, wherein the white paint is distributed in such a way as to ensure uniform light distribution along the length of the rod.

30. (Previously Presented) The side-emitting illumination device of claim 19, wherein the rod is an elliptical rod in cross-section.

31. (Previously Presented) The side-emitting illumination device of claim 19, wherein the rod is a square rod in cross-section.

32. (Previously Presented) The side-emitting illumination device of claim 19, wherein the rod is a combination of straight and curved edges in cross-section.

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33. (Previously Presented) The side-emitting illumination device of claim 32, wherein the combination of straight and curved edges vary in configuration along the length of the rod.

34. (Currently amended) The side-emitting illumination device of claim 19, wherein the reflective outcoupling material comprises a combination of white paint and fine dots with varying packing density.

35. (Previously Presented) The side-emitting illumination device of claim 19, wherein the device further comprises a mirror at an end of the rod away from the light source.

36. (Previously Presented) The side-emitting illumination device of claim 35, wherein the mirror reflects light that travels the entire length of the rod.

37. (Currently amended) A method of controlling the angular distribution of light leaving the side of a side-emitting illumination device for uniformly distributing light comprising:

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providing a light-transmitting rod which permits substantially total internal reflection with ~~an~~ a reflective outcoupling material along its side;

controlling the width of the reflective outcoupling material to achieve a desired angular distribution of light leaving the side of the rod, wherein the width of the reflective outcoupling material varies along the length of the rod to provide substantially uniform light distribution; and

illuminating the light-transmitting rod with a light source.

38. (Currently amended) A side-emitting illumination device for distributing light comprising:

a light source,

a light-transmitting rod which permits substantially total internal reflection, and

a reflective outcoupling material affixed to an outer surface of the rod,

wherein the reflective outcoupling material exclusively controls the angular distribution of light leaving the side of the rod ~~and the outcoupling material is distributed along an angular~~

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~~width in such a way as to ensure uniform light distribution along  
the length of the rod,~~

wherein the angular width of the reflective outcoupling  
material varies along the length of the rod to provide  
substantially uniform light distribution.

39. (New) A side-emitting illumination device for distributing  
light comprising:

a light source,

a light-transmitting rod which permits substantially total  
internal reflection, and

a reflective outcoupling material affixed to an outer surface  
of the rod,

wherein the reflective outcoupling material exclusively  
controls the angular distribution of light leaving the side of the  
rod,

wherein the angular width of the reflective outcoupling  
material varies along the length of the rod, wherein the reflective  
outcoupling material is distributed in a series of stripes

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perpendicular to the length of the rod to provide substantially uniform light distribution along the length of the rod.

40.(New) The side-emitting illumination device of claim 39, wherein at least one of a spacing between the stripes or the width of the stripes is varied along the length of the rod.

41.(New) The side-emitting illumination device of claim 39, wherein the width of a spacing between the stripes is varied along the length of the rod.

42.(New) The side-emitting illumination device of claim 39, wherein the stripes further comprise fine dots with varying packing density.